

Fishes of West Virginia:

West Virginia is blessed with a variety of fish resources, including 184 species and 3 hybrid sport fishes distributed among 24 different families. Interestingly, approximately 20 percent are sport fishes, 80% are non-game fishes and 75% are found in just five families: carps/minnows (63 species), perches (32), suckers (19), basses/sunfishes (14), and catfishes (12).

Fish= multiple of one species

Fishes= multiple fish of multiple species

Taxonomic Classification

Domain

Kingdom

Phylum

Class

Order-grouping of related

Family-subgrouping

Genus- shared amongst closely related

Species- specific to an individual

*the bolded sections are where we will focus

Example fishes:

Paddlefish



Domain: Eukaryota

Kingdom: Animalia

Phylum: Chordata

Class: Actinopterygii

Order: Acipenseriformes

Family: Polyodontidae

Genus: Polyodon

Species: *Polyodon spathula*

Shovelnose sturgeon



Domain: Eukaryota
Kingdom: Animalia
Phylum: Chordata
Class: Actinopterygii
Order: Acipenseriformes
Family: Acipenseridae
Genus: *Scaphirhynchus*
Species: *Scaphirhynchus platyrhynchus*

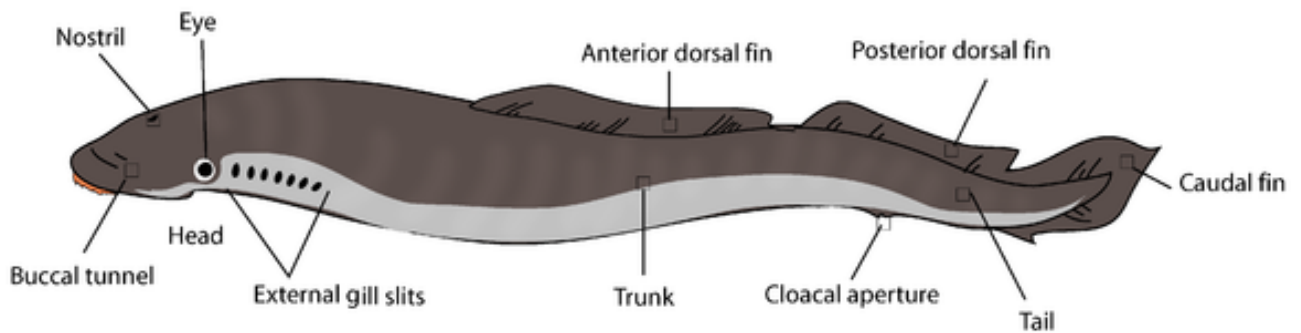
West Virginia species to know:

This will be organized by Family then broken down into specific species.

Petromyzontidae: Lampreys

Jawless fish. Some form of these species have been around since the Devonian period. Typically identified via tooth pattern in their mouth plates OR myomere (segments of muscle) counts

Example of anatomy:





Ohio lamprey- *Ichthyomyzon bdellium*

Considered endangered. This species is parasitic. Oral disc is as wide as the body and teeth in the series are **bicupspid**, myomere count 55-61



Silver lamprey-*Ichthyomyzon unicupsis*

Species is parasitic. Oral disc **unicupsid** (adults will have a single bicupsid tooth in the middle), myomere count 50-56



Photo by: Brian Zimmerman



Least brook lamprey- *Lampetra aeyptera*

Non-parasitic species. Dorsal fin divided by a deep notch. Teeth in adults small and widely separated or non existent. Myomere count 54-62.



Anguillidae: eels

Elongated and snakelike. Usually with continuous dorsal and anal fins. Catadromous- spends majority of life in freshwater systems but will migrate to saltwater (specifically Sargasso Sea) to spawn. Once hatched young eels make the trek from the Sargasso back to freshwater systems.

**American eel- *Anguilla rostrata***

Elongate body, small rounded pectoral fins, dorsal fin exceedingly long (reaching over half of the body length) and continuous with caudal and anal fin.

Acipenseridae: sturgeons

Long lived and late maturing. Many species are endangered due to dams impeding migration, and overharvesting for caviar. Species has tough armor like scutes and a heterocercal (spine continues into top of caudal fin) tail.

Shovelnose sturgeon- *Scaphirhynchus platyrhynchus*

Smallest of the sturgeon species. Listed as endangered. Caudal peduncle (area between the body and where the caudal fin begins) is very long and slender. Snout broad and flattened, shaped like a shovel (leads to the name). Whip-like extension on the caudal fin but this is often missing in older individuals as it easily breaks off

**Polydontidae: paddlefish**

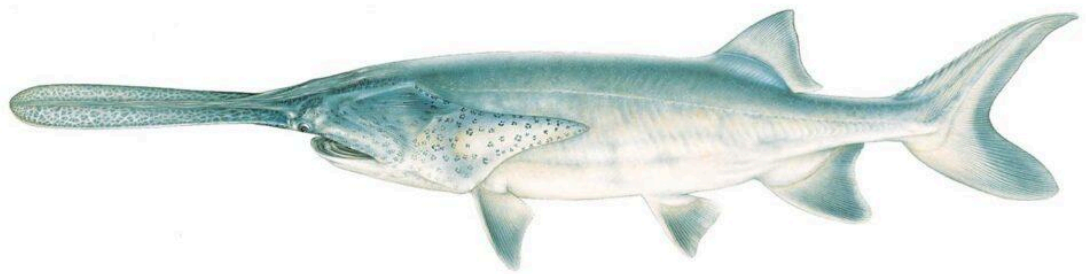
Cartilaginous fishes. Only two species. The american paddlefish and the chinese paddlefish. Example of convergent evolution, due to circumstances and habitats that are similar and similar niche's needing to be filled, two similar fish species evolved. Species using the spatula like rostrum to search for food. Filter feeders. They are not related except by looks. Chinese

paddlefish was declared extinct in 2022, last sighting of this species was officially noted as 2005 but there were possible sightings up until 2010.



American paddlefish- *Polyodon spatula*

Shark like body with elongated paddle like snout. Opercular flap is triangular and extends to a point just short of the pelvic fins. Tail heterocercal and deeply forked. Threatened species is the majority of it's range due to dams inhibiting spawning migrations and due to the threat of the invasive carp species that are also filter feeders (bighead and silver carp). Some populations are large enough to sustain small amounts of harvest for caviar.



Lepisosteidae: gar

Elongated and heavily armored with **ganoid (diamond shape)** scales. Their swim bladders can also function as lungs, these species can breathe little bits of air. These species typically prefer slow moving shallow water, oftentimes in warmer temperatures there's less oxygen in the water-their vascularized swim bladder assists them in these instances and allows for them to take gulps of air. First appeared during the Triassic Period.

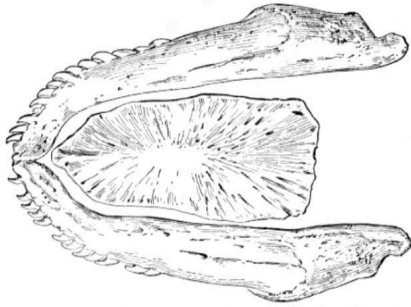
Longnose gar- *Lepisosteus osseus*

Body long and cylindrical, caudal fin rounded. Snout very long, also called needle-nose. Scale count on mid-dorsal ridge between head and dorsal fin 50-52.



Amiidae: bowfins

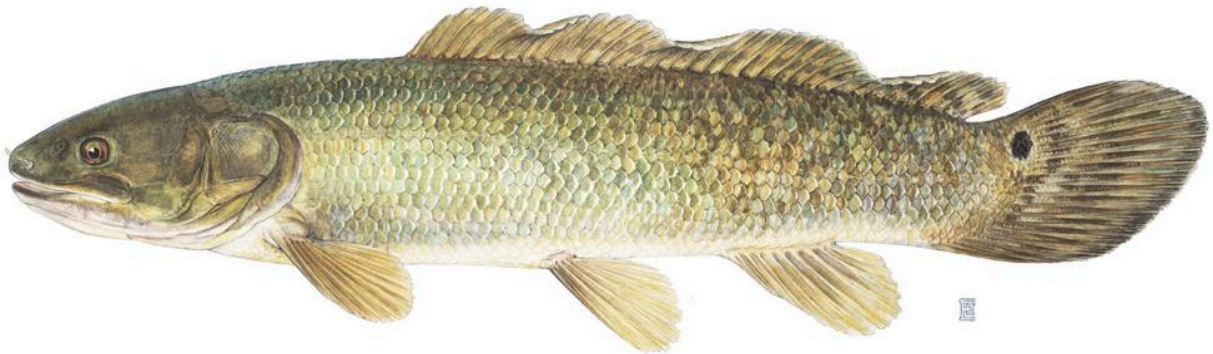
Evolved alongside gar species and have a similar distribution range. Primitive fish, has retained the majority of it's traits from very early ancestors. Ability to breathe air also present. **Have a**



gular plate, which is a flat bony piece that lies between the two bottom jaw pieces (example photo to the left). Often described as looking like miniature placoderms, bony armored ancient fish.

Bowfin- *Amia calva*

Head covered by bony plates with two small tube-like nostrils. Mouth full of sharp teeth, **gular plate**, hard bite force. Dorsal fin very long and undulating. Often misidentified as northern snakeheads- an invasive species. Bowfin are native to WV and surrounding states. Breeding males will get a very vibrant blue/green coloration. Fun fact: these fish will protect their young very viciously.

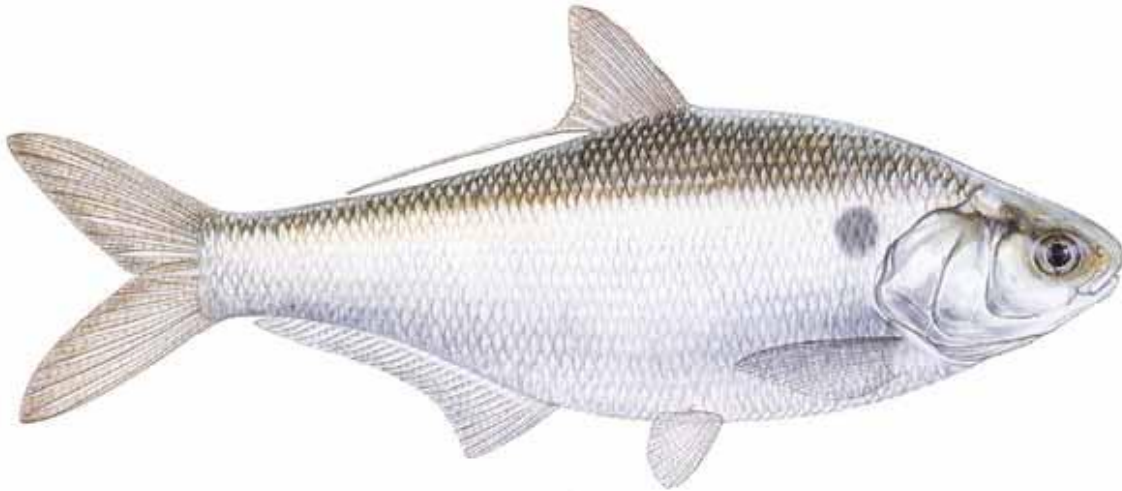


Clupeidae: herrings and sprats

Very small and uniform scales. Fusiform body allows them to be very quick swimmers. Forage fishes.

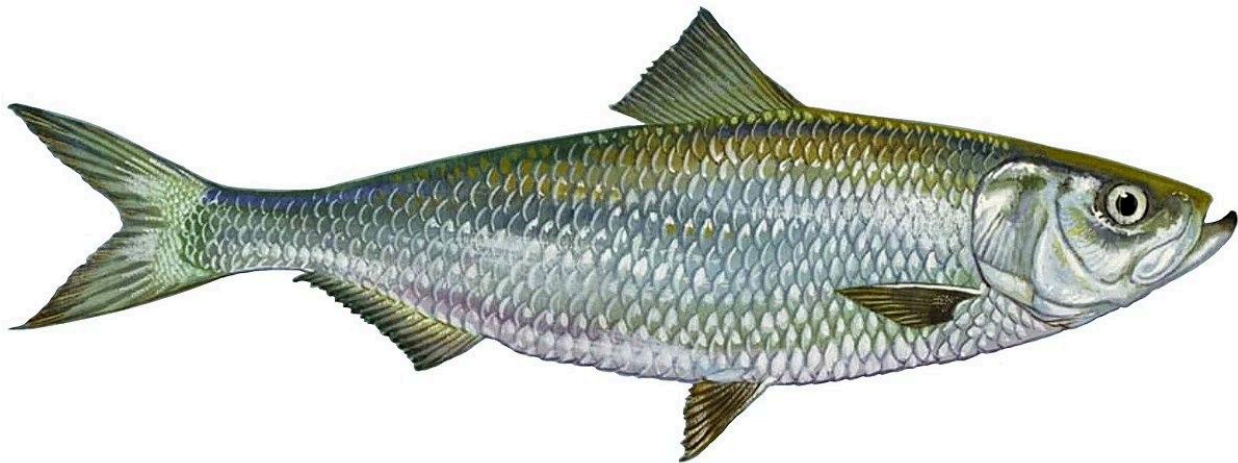
Gizzard shad- *Dorosoma cepedianum*

Deep body, small subterminal mouth and **black spot behind gill cover**. Dorsal fin with 10-13 rays. Belly keeled (sharp edge), often called Sawbelly.



Skipjack herring-*Alosa chrysochloris*

Body elongate and compressed with a pointed head and a large terminal mouth. Dorsal fin short with 16-21 rays.



Cyprinidae: minnows and carps

The largest and most diverse family of fishes. Can range in size from a couple inches to several feet. Includes species like emerald shiner and the invasive bighead carp. Typically these species do not have teeth in their mouth but rather what's known as pharyngeal teeth that are in the "throat" and break up the food they eat. Many of these species are planktivores but some forage for small insects or detritus.

Creek chub-*Semotilus atromaculatus*

Body stout with broad head. Large mouth with a jaw extending below the anterior edge of the eye. Dark stripe running along the lateral line.



Bluntnose minnow-*Pimephales notatus*

Body elongate, snout very blunt. Typically described as "just ran into a wall", intestines (peritoneum) darkly colored and visible through the skin of the belly. Dark spot on first few dorsal rays



Emerald shiner- *Notropis atherinoides*

Body very slender and skinny. Silvery with slightly green tinge. Fins transparent with no pigment markings. Short snout with terminal mouth



Southern redbelly dace- *Chrosomus erythrogaster*

Elongate body with small pointed snout. Two dark lateral bands on sides separated by a golden stripe and a row of small dark blotches. Breeding males will get bright red bodies and bright yellow fins



Rosyside dace- *Clinostomus funduloides*

Body stout, deep and compressed laterally. Lower jaw slightly longer than upper jaw, terminal mouth. Breedings adults will have a rose colored band on lower sides with no defined edges, a thin golden stripe separates the rosy color from the rest of the greenish hue of the fish



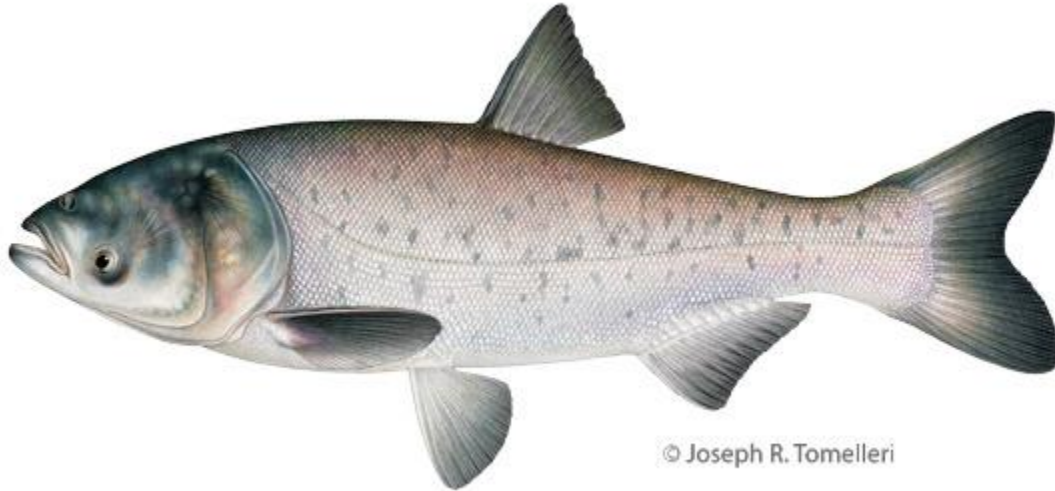
Silver carp-*Hypophthalmichthys molitrix* - INVASIVE

A planktivore filter feeder originally brought to the United States as a food fish to be kept in aquaculture ponds. This is the “flying carp” species often seen in videos where vast majorities are jumping all around the water around boats. Currently making their way up the Ohio River. Silver in color with large mouth. Eyes large and positioned very low on the head



Bighead carp-*Hypophthalmichthys nobilis*- INVASIVE

Another planktivore filter feeder originally brought over to be in aquaculture as a food fish. Also making their way up the Ohio River. Very large head and darker coloration than the silver carp. Eyes large and also positioned very low on the head.



Catastomidae: suckers

Almost exclusively found in North America with only 2 species being described elsewhere. An important food fish for many Native American cultures there are festivals in areas during spawning times. The oldest living freshwater fish is found in this family, the bigmouth buffalo.

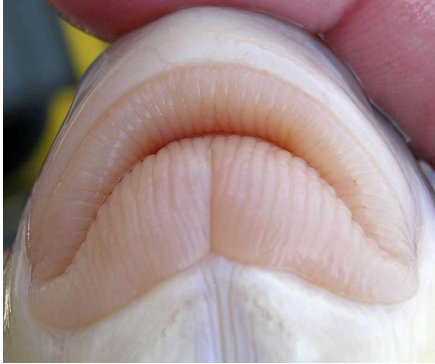
Smallmouth buffalo-*Ictiobus bubalus*

Deep bodies, small triangular head, small subterminal mouth with protractible lips. Back elevated and ridge-like



Golden redhorse- *Moxostoma erythrurum*

Body moderately deep, back slightly elevated. Rear edges of lips form a definite V. Lips are plicate (have straight line ridges vs papillose which are fleshy dots)



Northern hogsucker- *Hypentelium nigricans*

Distinctively large pectoral fins, large flattened bony head. Highly protrusible mouth (like a vacuum cleaner), with thick strongly papillose lips. Below is a picture of an Ohio River specimen.



Ictaluridae: catfish

North American catfish to be exact. An important food source and many species of this family are sport fish. Characteristics include flattened head and mouth with distinct whisker like barbels. This family has adipose fins, a fleshy tag like tissue.

Flathead- *Pylodictus olivaris*

Body long and slender. Mouth wide with the bottom of the jaw often exceeding the top. **Caudal fin is squared**, distinct white patch on dorsal end of caudal fin. Dark mottling often present though color varies widely in this species depending on age, and habitat association.



Blue catfish- *Ictalurus furcatus*

Long anal fin with the edge forming a distinct straight line with 30-36 rays. **Caudal fin deeply forked with distinctly pointed lobes**. Body very light in color with blue sheen on the top of the body.



Channel catfish- *Ictalurus punctatus*

Very similar in appearance to the blue catfish. Juveniles will have black spots along the side.

Caudal fin forked (not as deeply as blue) with pointed lobes. Anal fin long with 24-30 rays.

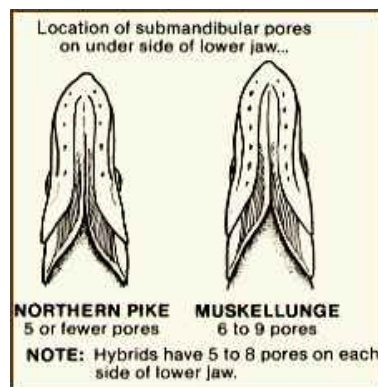


Esocidae: pike and pickerel

Large ambush predators. Most of the fish in this family are considered to be sportfish. Prefer **cool water that ranges between 55-70 degrees Fahrenheit**. Aggressive fish that will eat whatever fits into their mouth. Torpedo like shape with dorsal fins positioned far back on the body closer to the caudal fin.

Muskellunge- *Esox masquinongy*

Large duck billed snout with needle-sharp teeth. Lower half of cheek and opercle flap naked, bottom half has scales. Fins are spotted. Pores on the mandible number 6 or more on each side. Light coloration with darker spots



Northern pike- *Esox lucius*

Large duck billed snout with sharp teeth. Cheeks are fully scaled. Dark coloration with lighter spots. Dark line in front of the eye. Pores on the mandible number less than 5 or less on each side.



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Centrarchidae: bass and sunfish

Many species in this family are considered sport fish. Members are distinguished by their laterally compressed body shape and the presence of 2 dorsal fins that are connected and anal spines. Often broken into two sub groups, black bass species (largemouth, smallmouth, spotted) and sunfish species (bluegill, pumpkinseed, longear etc).

Largemouth bass-*Micropterus salmoides*

Back dark and sides silvery. Mouth very large **posterior edge of lower jaw extending beyond rear edge of eye**. Usually no tooth patch present (rough patch on tongue). Black lateral stripe uniform width in adults but will sometimes be broken into blotches.



Smallmouth bass-*Micropterus dolomieu*

Body slender, brown to bronze coloration, 9-16 vertical bars. Mouth moderately large, **upper jaw reaching to the edge of the eye but never past** in like in Largemouth bass. Young will have a tricolored caudal fin.



Longear sunfish-*Lepomis megalotis*

Very deep bodied and laterally compressed. Opercular flap elongated and black with a white margin. Cheeks and gill covers orange marked with blue/green wavy lines



Percidae: perches

Related to bass and sunfish. They share an order. Characteristics of this family is still the presence of 2 dorsal fins but in this family they are **NOT** connected. Dorsal 1 is usually comprised of spines while Dorsal 2 is comprised of soft rays. Some of the most brightly colored fish are in this family, the darters. Including the Candy Darter, a fish that is endemic to the New River and Gauley systems on WV and VA. Like many of the darters, this species is considered

endangered and there are efforts to stock viable populations so that future generations have the ability to see this beautiful fish.

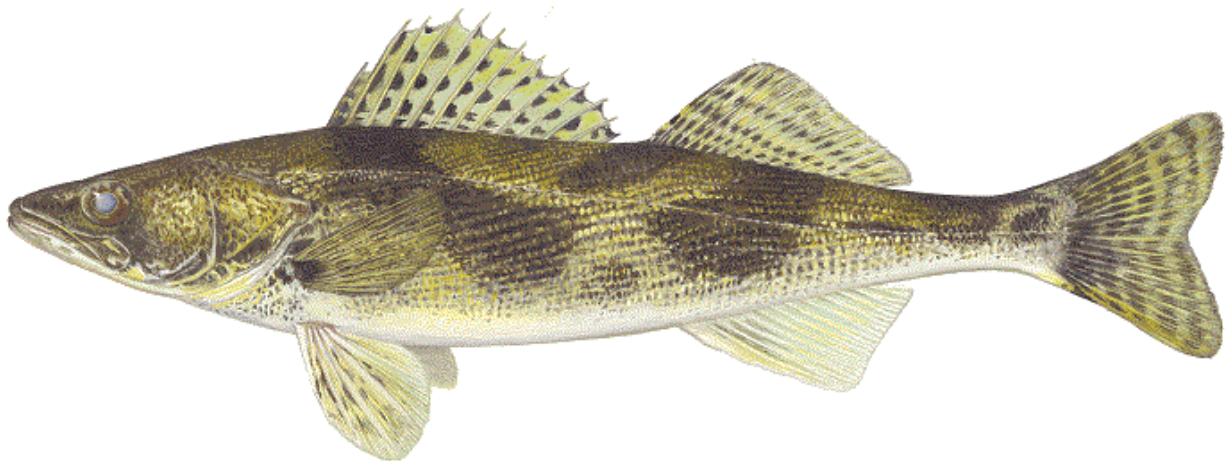
Walleye-*Sander vitreus*

Body elongate and cylindrical, mouth with sharp teeth. Olive-yellow with dark vertical saddle like bands across the back



Sauger-*Sander canadensis*

Body fusiform, color variable but typically lighter bronze or golden. Dark spots on Dorsal fins form uniform rows.



Candy darter-*Etheostoma osburnii*

Named for their vibrant colors, male candy darters have five black saddles along their backs and nine to 11 vertical bands that alternate red-orange and blue-green along the sides of their bodies. Though females maintain a similar marking pattern, they appear mostly olive green and black



Johnny darter-*Etheostoma nigrum*

Body slender, back and upper sides olivaceous or straw-colored, **sides pale with X or Y shaped markings**, caudal fin is squared off and not lobed.



This is by no means an exhaustive list of the species in West Virginia. We encourage you to continue to be curious, research and learn more about the jewels our state has to offer. From the most diverse freshwater systems with brightly colored stream fish that rival tropical reefs, to large river monster fish in our navigable rivers, trophy size sport fish to micro sized gems our waters have something to offer everyone.